Amendment to the Claims:

The claims under examination in this application, including their current status and changes made in this paper, are respectfully presented.

1 (currently amended). A system for wavelet analysis of one or more signals to determine one or more characteristics of one or more anomalies in a wire, the system comprising:

a library of one or more reference wavelet analysis results that each correspond to one or more known anomalies having one or more known characteristics; and

an analysis module operable to:

receive a first signal from a detector that has scanned a magnetic field from a wire comprising an anomaly, the first signal corresponding to a second signal used to generate the magnetic field;

calculate a wavelet analysis result from a wavelet analysis of the first signal, the wavelet analysis result corresponding to the second signal;

access the library;

compare the wavelet analysis result with one or more reference wavelet analysis results;

responsive to ~~if~~ the wavelet analysis result ~~corresponds~~ corresponding to one or more particular reference wavelet analysis results, indicate that the anomaly in the wire has one or more particular known characteristics of one or more particular known anomalies corresponding to the one or more particular reference wavelet analysis results; and

determine a location of the anomaly in the wire from the scanned magnetic field

~~if the wavelet analysis result does not correspond to one or more reference wavelet analysis results, indicate that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet analysis results in the library.~~

2 (original). The system of Claim 1, wherein the wavelet analysis result comprises a wavelet power spectrum of the first signal and the reference wavelet analysis results each comprise one or more reference wavelet power spectra.

3 (original). The system of Claim 2, wherein a wavelet transform is used to calculate the wavelet power spectrum of the TDR signal.

4 (original). The system of Claim 1, wherein the second signal is a time domain reflectometry (TDR) signal.

5 (canceled).

6 (original). The system of Claim 1, wherein an integrated circuit (IC) package comprises the wire.

7 (currently amended). A method for wavelet analysis of one or more signals to determine one or more characteristics of one or more anomalies in a wire, the method comprising:

receiving a first signal from a detector that has scanned a magnetic field from a wire comprising an anomaly, the first signal corresponding to a second signal used to generate the magnetic field;

calculating a wavelet analysis result from a wavelet analysis of the first signal, the wavelet analysis result corresponding to the second signal;

accessing a library of one or more reference wavelet analysis results that each correspond to one or more known anomalies having one or more known characteristics;

comparing the wavelet analysis result with one or more reference wavelet analysis results; and

responsive to ~~if~~ the wavelet analysis result ~~corresponds~~ corresponding to one or more particular reference wavelet analysis results, indicating that the anomaly in the wire has one or more particular known characteristics of one or more particular known anomalies corresponding to the one or more particular reference wavelet analysis results; and

determining a location of the anomaly from the scanned magnetic field

~~if the wavelet analysis result does not correspond to one or more reference wavelet analysis results, indicating that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet analysis results in the library.~~

8 (original). The method of Claim 7, wherein the wavelet analysis result comprises a wavelet power spectrum of the first signal and the reference wavelet analysis results each comprise one or more reference wavelet power spectra.

9 (original). The method of Claim 8, wherein a wavelet transform is used to calculate the wavelet power spectrum of the TDR signal.

10 (original). The method of Claim 7, wherein the second signal is a time domain reflectometry (TDR) signal.

11 (canceled).

12 (original). The method of Claim 7, wherein an integrated circuit (IC) package comprises the wire.

Claims 13 – 18 (canceled).

19 (currently amended). A system for wavelet analysis of one or more signals to determine one or more characteristics of one or more anomalies in a wire, the system comprising:

means for receiving a first signal from a detector that has scanned a magnetic field from a wire comprising an anomaly, the first signal corresponding to a second signal used to generate the magnetic field;

means for calculating a wavelet analysis result from a wavelet analysis of the first signal, the wavelet analysis result corresponding to the second signal;

means for accessing a library of one or more reference wavelet analysis results that each correspond to one or more known anomalies having one or more known characteristics;

means for comparing the wavelet analysis result with one or more reference wavelet analysis results;

means for~~, if the wavelet analysis result corresponds to one or more particular reference wavelet analysis results,~~ indicating that the anomaly in the wire has one or more particular known characteristics of one or more particular known anomalies corresponding to the one or more particular reference wavelet analysis results, responsive to the wavelet analysis result corresponding to one or more particular reference wavelet analysis results; and

means for determining a location of the anomaly from the scanned magnetic field

~~means for, if the wavelet analysis result does not correspond to one or more reference wavelet analysis results, indicating that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet analysis results in the library~~.

20 (currently amended). ~~A system for wavelet analysis of one or more signals to determine one or more characteristics of one or more anomalies in a wire, the system comprising: a library of~~ The system of claim 1, wherein the one or more reference wavelet analysis results comprise one or more reference wavelet power spectra that each correspond to one or more known anomalies having one or more known characteristics; ~~and~~

~~an analysis module operable to~~:

~~receive a first signal from a detector that has scanned a magnetic field from a wire comprising an anomaly, the first signal corresponding to a second signal used to generate the magnetic field,~~ wherein the second signal ~~being~~ is a time domain reflectometry (TDR) signal;

wherein the analysis module is operable to calculate a wavelet analysis result from a wavelet power spectrum of the first signal~~, the wavelet power spectrum corresponding to the second signal;~~

~~access the library;~~

wherein the analysis module is operable to compare the wavelet analysis result by comparing the wavelet power spectrum with one or more reference wavelet power spectra;

~~if the wavelet analysis result corresponds to one or more particular reference wavelet power spectra,~~ and wherein the analysis module is operable to indicate that the anomaly in the

wire has one or more particular known characteristics of one or more particular known anomalies corresponding to the one or more particular reference wavelet power spectra, responsive to the wavelet power spectrum corresponding to one or more particular reference wavelet power spectra; and

~~if the wavelet analysis result does not correspond to one or more reference wavelet power spectra, indicate that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet power spectra in the library.~~

21 (new). The system of claim 1, wherein the analysis module is further operable to:

indicate that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet analysis results in the library, responsive to the wavelet analysis result not corresponding to one or more reference wavelet analysis results.

22 (new). The method of claim 7, further comprising:

indicating that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet analysis results in the library, responsive to the wavelet analysis result not corresponding to one or more reference wavelet analysis results.

23 (new). The system of claim 19, further comprising:

means for indicating that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet analysis results in the library, responsive to the wavelet analysis result not corresponding to one or more reference wavelet analysis results.